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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,315	07/02/2001	Brent Kevin Larson	DN2001138	1737
7590 05/10/2004				
The Goodyear Tire & Rubber Company Patent & Trademark Department - D/823 1144 East Market Street Akron, OH 44316-0001			EXAMINER WYROZEBSKI LEE, KATARZYNA I	
			ART UNIT 1714	PAPER NUMBER

DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/897,315

Applicant(s)

LARSON, BRENT KEVIN

Examiner

Katarzyna Wyrozebski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1, 8-18 and 21-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 8-18, 21-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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In view of applicant's filing for RCE and updated search report following first office action after RCE is issued. Claims 1, 8-18, 21-27 are pending.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 8-18, 21-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over WEBER (US 4,431,755) in view of HERGENROTHER (US 6,525,118).

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The prior art of WEBER discloses process for making vulcanizable rubber composition that is to be vulcanized with sulfur.

The process of WEBER discloses mixing together diene rubber, clay, ammonium compound and silane coupling agent.

The clay of WEBER includes smectite type clay such as montmorillonite, hectorite, mica and the like (col. 5, lines 1-48). Silicate is utilized in amount of 5-150 pbw (col. 6, lines 11-15).

Ammonium compounds are alkyl ammonium (col. 8, lines 1-6), which can also be polymeric ammonium compounds. The amount of ammonium compound in the composition of WEBER is in a range of 0.005-3 phr, which encompasses the amount of the ammonium in the present invention (col. 10, lines 15-22). The R substituents on the ammonium compound of WEBER are aliphatic chains having 1-3 carbon atoms. At least one substituent can have either 8 or 12 carbon atoms (col. 8, lines 1-67). Specific ammonium compound includes tallow trimethyl ammonium chloride or ditallow dimethyl ammonium chloride (col. 13, lines 13-16).

Coupling agent of WEBER is silane coupling agent utilized in amount of 0.01-20 phr (col. 3, lines 10-45). Coupling agent comprises functional groups such as alkoxy, amino, sulfide and the like. More specific examples include widely utilized Si-69 or bis[triethoxysilylpropyl]-tetrasulfide (col. 13, lines 7-10).

Although the prior art of WEBER does not specifically state that the clay will undergo intercalation and possible exfoliation, such result is intrinsic due to cationic character of both clay and ammonium.

With respect to the process of WEBER the sequence of addition of silane coupling agent and ammonium compound is not clearly defined as long as the two compounds are utilized

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together in the composition. Therefore the prior art of WEBER encompasses addition of silane coupling agent to the composition either separately or together with ammonium compound.

The difference between the present invention and the disclosure of WEBER is use of additional filler in order to form composition usable as tire tread.

With respect to the above argument the prior art of HERGENROTHER discloses composition comprising also diene rubber that can be vulcanized with sulfur. Other additives include reinforcing fillers such as silica and/or carbon black in the amount of 5-100 pbw (Abstract).

The prior art of HERGENROTHER also teaches partial replacement of reinforcing filler such as carbon black or silica with silicate. The specific silicate is the composition of HERGENROTHER is silicate such as clay or mica in the amount of 5 pbw (Col. 12, Table V).

The composition of HERGENROTHER is utilized to make tire articles such as treads. Resulting composition has reduced hysteresis.

In the light of the above disclosure, it would have been obvious to one having ordinary skill in the art to utilize process of WEBER to make composition of HERGENROTHER. Such combination would still provide sulfur vulcanizable rubber with filler reinforcement.

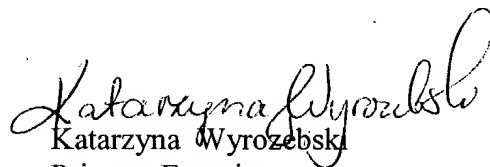
In view of applicant's amendment to the claims, the prior art of record as applied in the previous office action is overcome. The applicant's arguments are therefore moot due to discontinuation of the previous references as prior art.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katarzyna Wyrozebski whose telephone number is (571) 272-1127. The examiner can normally be reached on Mon-Thurs 6:30 AM-4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Katarzyna Wyrozebski  
Primary Examiner  
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May 3, 2004